

The Claims

What is claimed is:

5 1. A bone plating system for fixation of bone comprising:  
a bone plate having:  
an upper surface;  
a bone-contacting surface;  
at least one first hole passing through the upper and bone-contacting surfaces and  
10 having a thread; and  
at least one second hole passing through the upper and bone-contacting surfaces;  
a first screw having a shaft with a thread for engaging bone and a head with a thread  
configured and dimensioned to mate with the thread of the first hole; and  
a second screw having a shaft with a thread for engaging bone and a head,  
15 wherein the first and second screws remain seated in their respective holes for substantially  
as long as the bone plate is implanted.

20 2. The bone plating system of claim 1 wherein the bone plate includes a  
plurality of first and second holes, and a corresponding plurality of first and second screws  
are provided.

3. The bone plating system of claim 1 wherein the first screw is a self-tapping  
screw.

25 4. The bone plating system of claim 3 wherein the first screw is a self-drilling  
screw.

5. The bone plating system of claim 1 wherein the first screw is cannulated for  
insertion of a guide wire to guide screw placement.

30 6. The bone plating system of claim 1 wherein the second screw is a self-  
tapping screw.

7. The bone plating system of claim 1 wherein the first plate hole has a  
35 substantially conical shape.

7 8.  
lead thread.

The bone plating system of claim 7 wherein the first plate hole has a double-

Sub 27  
5 9. The bone plating system of claim 1 wherein the bone plate has a trapezoidal shaped cross section in regions between the first and second plate holes for minimizing contact between bone and the bone-contacting surface.

10. The bone plating system of claim 2 wherein at least one of the second plate holes is longitudinally elongated and has an edge inclined at an angle to the upper surface toward the bone-contacting surface for displacing the bone plate when engaged by the head of a second bone screw.

11. The bone plating system of claim 2 wherein the bone plate includes a head portion configured and dimensioned to conform to a metaphysis of a bone and a shaft portion configured and dimensioned to conform to a diaphysis of a bone.

12. The bone plating system of claim 11 wherein the head portion has only first plate holes.

20 13. The bone plating system of claim 11 wherein the shaft portion has both first and second plate holes.

14. The bone plating system of claim 11 wherein the head portion has a curved surface, includes an anterior fork substantially parallel to an anterior side of the shaft portion, and includes a posterior fork extending out from a posterior side of the shaft portion.

15. The bone plating system of claim 11 wherein the shaft has a trapezoidal shaped cross section in regions between the first and second screw holes for minimizing contact between bone and the bone-contacting surface.

16. The bone plating system of claim 11 wherein the head portion flares outward from the shaft.

Sub 35  
17. The bone plating system of claim 15 wherein the head portion is provided with suture holes.

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18. A method for fracture fixation of bone comprising the steps of:

reducing the fracture to bring bone fragments in close apposition;

compressing a bone plate against the bone with at least one first fastener to hold the fracture reduction; and

5        securing at least one second fastener at a fixed angular relationship to the bone plate, wherein the at least one first fastener is inserted before the at least one second fastener and the at least one first fastener and the at least one second fastener remain in bone for substantially as long as the bone plate is implanted.

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